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In Illinois, scientists in the field of nanotechnology -- the science of creating things on a molecular level -- have reason to think big.

With the establishment this year of the International Institute for Nanotechnology at Northwestern University, the state is poised to become the world's largest center for this new science that has implications for advances in everything from medicine to electronics to optics, a leading expert said Saturday.

"You need exciting areas to attract smart people, and nanoscience is one of these areas," said Chad Mirkin, a Northwestern professor and director of the institute, a \$300 million venture with Argonne National Laboratory's Center for Nanoscale Materials.

"IIN will become one of, if not the world's largest, nanotechnology efforts in terms of money and the collection of people driving the field."

Mirkin was part of a symposium Saturday to kick off the new institute that drew leaders in the field from around North America.

Nanotechnology involves developments on a tiny scale -- one nanometer equals one millionth of a millimeter. Scientists are fascinated by nanoparticles because at these sizes, they take on new properties.

The applications for nanotechnology in medicine are huge, Mirkin said.

Scientists are working on creating the first ovarian cancer screen for women, a miniaturized sensor that can go inside a patient's body and catch the disease in its early stages.

The development of particles that can be ingested or injected into a cancer patient that then attack tumors directly without damaging healthy cells is likely to be a reality within the next five years, Mirkin said.

Also at the symposium, Rep. Mark Kirk (R-Ill.), who sits on the House Appropriations Committee, said Congress' doubling of funding for the National Institutes of Health was good but not enough to nurture the "risk-taking culture" and build up the "intellectual capital" needed for nanotechnology to thrive in the United States.

"When we look at the next big thing -- and it's a very tiny thing -- enormous change can be driven by a tiny innovation, and we want to make that happen here," Kirk said. "With so much promise, with so much potential synergy and with so much at stake, we need to get to work."